WHAT IS CLAIMED IS:

1. A controlling method of controlling a chiller that supplies a cooling medium for temperature control to a processing apparatus for performing a predetermined process on a substrate, the controlling method comprising:

supplying the cooling medium at a first flow rate to the processing apparatus from the chiller when the processing apparatus ordinarily operates for the process;

referring to recipe information on a process sequence, thereby detecting that the processing apparatus will come into a long idle state that is an idle state longer than a predetermined threshold time period;

reducing a flow rate of the cooling medium from the first flow rate to a second flow rate smaller than the first flow rate after the processing apparatus switches from an ordinary operation state to the idle state; and

returning the flow rate of the cooling medium back to the first flow rate from the second flow rate before the processing apparatus switches from the idle state to the ordinary operation state.

2. The method according to claim 1, wherein an electrode is disposed in the processing apparatus and configured to be supplied with a radio frequency power,

and the cooling medium is supplied to the processing apparatus from the chiller to control temperature of the electrode.

3. The method according to claim 2, wherein the substrate is placed on the electrode.

4. The method according to claim 2, wherein the electrode is supplied with no radio frequency power when the processing apparatus is in the idle state.

5. The method according to claim 4, wherein the second flow rate of the cooling medium is set to be a flow rate at which the electrode is kept at a temperature almost equal to an electrode temperature set value used when the processing apparatus is in the ordinary operation state.

6. The method according to claim 2, wherein plasma is generated near the electrode by supply of the radio frequency power.

7. The method according to claim 1, wherein the threshold time period is set to be longer a time period that is a sum of a first time period necessary for switching from the first flow rate to the second flow rate, and a second time period necessary for switching from the second flow rate to the first flow rate.

8. The method according to claim 7, wherein, when the processing apparatus shifts from the long idle state to the ordinary operation state, a switching operation from the second flow rate to the first flow

rate is started, the second time period or more earlier than timing to shift to the ordinary operation state.

9. The method according to claim 8, comprising referring to recipe information on a process sequence, thereby detecting the timing to shift to the ordinary operation state.

10. A controlling apparatus for controlling a chiller that supplies a cooling medium for temperature control through a cooling medium circulation passage to a processing apparatus for performing a predetermined process on a substrate, the controlling apparatus comprising:

cooling medium flow rate adjusting means for adjusting a flow rate of the cooling medium supplied from the chiller to the processing apparatus;

first sequence detecting means for referring recipe information on a process sequence, thereby detecting that the processing apparatus will come into a long idle state that is an idle state longer than a predetermined threshold time period;

cooling medium flow rate reducing means for controlling, in accordance with a detection result obtained by the first sequence detecting means, the cooling medium flow rate adjusting means to reduce a flow rate of the cooling medium from a first flow rate for an ordinary operation state of the processing apparatus to a second flow rate smaller than the first

flow rate after the processing apparatus switches from the ordinary operation state to the idle state; and

cooling medium flow rate returning means for controlling the cooling medium flow rate adjusting means to return the flow rate of the cooling medium back to the first flow rate from the second flow rate before the processing apparatus switches from the idle state to the ordinary operation state.

11. The apparatus according to claim 10, wherein the threshold time period is set to be longer than a time period that is a sum of a first time period necessary for switching from the first flow rate to the second flow rate, and a second time period necessary for switching from the second flow rate to the first flow rate.

12. The apparatus according to claim 11, wherein, when the processing apparatus shifts from the long idle state to the ordinary operation state, the cooling medium flow rate returning means starts a switching operation from the second flow rate to the first flow rate, the second time period or more earlier than timing to shift to the ordinary operation state.

13. The apparatus according to claim 12, comprising second sequence detecting means for referring to recipe information on a process sequence, thereby detecting the timing to shift to the ordinary operation state, and supplying a detection result to

the cooling medium flow rate returning means.

14. A semiconductor processing system, comprising:

a processing apparatus configured to perform a predetermined semiconductor process on a substrate, the processing apparatus including a process chamber that accommodates the substrate, a susceptor that supports the substrate in the process chamber, a gas supply section that supplies a process gas into the process chamber, and an exhaust section that exhausts an interior of the process chamber;

a thermo-medium circulation apparatus configured to circulate a thermo-medium through the susceptor to control temperature of the susceptor; and

a control section to control an operation of the processing apparatus and the thermo-medium circulation apparatus,

wherein the control section switches the thermo-medium circulation apparatus between an ordinary mode and an energy-saving mode in correspondence with an ordinary operation state and a long idle state of the processing apparatus, respectively, the long idle state is an idle state of the processing apparatus longer than a predetermined threshold time period, and the thermo-medium is circulated at a first flow rate and at a second flow rate smaller than the first flow rate in the ordinary mode and the energy-saving mode, respectively,

wherein the control section refers to recipe information on a process sequence, thereby detects that the processing apparatus will shift from the ordinary operation state to the long idle state, and switches the thermo-medium circulation apparatus from the ordinary mode to the energy-saving mode after the processing apparatus shifts to the long idle state, and

wherein the control section refers to recipe information on the process sequence or another process sequence, thereby detects that the processing apparatus will shift from the long idle state to the ordinary operation state, and switches the thermo-medium circulation apparatus from the energy-saving mode to the ordinary mode before the processing apparatus shifts to the ordinary operation state.

15. The system according to claim 14, wherein the threshold time period is set to be longer a time period that is a sum of a first time period necessary for switching from the ordinary mode to the energy-saving mode, and a second time period necessary for switching from the energy-saving mode to the ordinary mode.

16. The system according to claim 14, wherein, when the processing apparatus shifts from the long idle state to the ordinary operation state, the control section starts a switching operation from the second flow rate to the first flow rate, the second time period or more earlier than timing to shift to the

ordinary operation state.

17. The system according to claim 14, wherein the control section sets an interior of the process chamber at a vacuum pressure of 0.1 to 1 mTorr in the long idle state.

18. The system according to claim 14, wherein the processing apparatus comprises a plasma exciting mechanism configured to turn the process gas into plasma, and the control section disables the plasma exciting mechanism in the long idle state.

19. The system according to claim 18, wherein the plasma exciting mechanism comprises an upper electrode and a lower electrode facing each other, and a power supply configured to supply a radio frequency power across the upper electrode and the lower electrode, and the lower electrode functions as the susceptor.

20. The system according to claim 18, wherein the thermo-medium is a cooling medium.